Accelerate Learning STEMscopes Science TX Grade 2

Accelerate Learning STEMscopes Science TX Grade 2 Executive Summary

Section 1. Science-Related Texas Essential Knowledge and Skills (TEKS) and English Language Proficiency Standards (ELPS) Alignment

Grade	TEKS Student %	TEKS Teacher %	ELPS Student %	ELPS Teacher %
Grade K	100%	100%	100%	100%
Grade 1	100%	100%	100%	100%
Grade 2	100%	100%	100%	100%

Section 2. Instructional Anchor

- The materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.
- The materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Section 3. Knowledge Coherence

- The materials are designed to build knowledge systematically, coherently, and accurately.
- The materials provide educative components to support teachers' content and coherence knowledge.

Section 4. Productive Struggle

- The materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Section 5. Evidence-Based Reasoning and Communicating

- The materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.
- The materials provide teacher guidance to support student reasoning and communication skills.

Section 6. Progress Monitoring

- The materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

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- The materials include guidance that explains how to analyze and respond to data from assessment tools.
- The assessments are clear and easy to understand.

Section 7. Supports for All Learners

- The materials provide guidance on fostering connections between home and school.
- The materials include listening, reading, writing, and speaking supports to help Emergent Bilinguals meet grade-level science content expectations.
- The materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.
- The materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Section 8. Implementation Supports

- The materials include year-long plans with some practice and review opportunities that support instruction.
- The materials include classroom implementation support for teachers and administrators.
- The materials provide implementation guidance to meet variability in program design and scheduling.

Section 9. Design Features

- The visual design of materials is clear and easy to understand.
- The materials are mostly intentionally designed to engage and support student learning with the integration of digital technology.
- The digital technology or online components are developmentally and grade-level appropriate and provide support for learning.

Section 10. Additional Information

- The publisher submitted the technology, price, professional learning, and additional language supports.

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Indicator 2.1

Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

1	Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate scientific and engineering practices as outlined in the TEKS.	M
2	Materials provide multiple opportunities to make connections between and within overarching concepts using recurring themes.	M
3	Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS.	M
4	Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade-level appropriate scientific and engineering practices as outlined in the TEKS. Materials provide multiple opportunities to make connections between and within overarching concepts using the recurring themes. Material strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS. Materials include sufficient opportunities as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to make connections across disciplines and develop an understanding of science concepts.

Evidence includes but is not limited to:

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of grade level appropriate scientific and engineering practices as outlined in the TEKS.

- The "Standards Planning" section of each scope includes a list of the scientific and engineering practices addressed in the scope. The Scope Matrix includes a "Scientific and Engineering Practices" section with more detailed information about where the SEPs appear within the lessons. For example, in the "Weather and Air" unit, students will have the opportunity to construct an explanation and support an argument that weather changes from day to day. Additionally, each scope includes an opportunity for students to write a scientific explanation using the CER Framework to respond to a scenario. For example, in the unit on Food Chains, construct an explanation and support an argument that food chains are made of producers and consumers that can be identified and food chains demonstrate how animals depend on other living things.

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- Throughout the year, students have multiple opportunities to ask questions and develop their understanding using a provided Interactive Science Notebook (ISN). For example, in Unit 2, as students develop their understanding of physical changes of matter by showing cutting, folding, and melting, they record their thinking and questions in the ISN.
- The materials help students develop, practice, and demonstrate mastery of the SEPs by conducting a claim, evidence, reasoning (CER) protocol. In Lesson 1 of the Properties of Matter Scope, students organize objects by texture and flexibility. The teacher asks students to listen to a story about a child who wants to build a jumping apparatus. The child has a metal frame and safety net. Students must decide what type of material to use for the middle jumping section. Each of the six lessons in this Scope has the same CER activity. Students can get additional practice with the teacher as needed based on the results of the CER.

Materials provide multiple opportunities to make connections between and within overarching concepts using recurring themes.

- In each scope, the “Standards Planning” section lists the recurring themes and concepts (RTCs) addressed in the scope. Students make connections as the content in the scope progresses. For example, Lessons 1-10 in the Plant Structures and Functions Unit include Mini-Lessons that scaffold how the plant’s structure functions for a plant to survive.
- In each scope, the “Standards Planning” section lists the RTCs addressed in the scope. The RTCs include patterns, cause and effect, scale, portion and quantity, systems, energy and matter, structure and function, and stability and change are included with recurring theme cards. This resource is utilized each time the same theme or concept is taught to reference previous learning. Each Recurring Theme Card provides guidance on what students are doing, what it looks like in the classroom, critical vocabulary, discussion prompts, and teacher notes.
- The materials allow for multiple opportunities to teach science concepts. The materials give examples of how to adapt and integrate concepts into other subject areas, and they allow students the opportunity to explore more scientific experiences and real-world connections.

Materials strategically and systematically develop students’ content knowledge and skills as appropriate for the concept and grade level as outlined in the TEKS.

- Materials suggest ways to develop students' content knowledge using Leveled Readers. Leveled Readers provide teachers with science reading selections appropriate for students with varied reading levels to be used in literacy blocks, guided reading blocks, or any other time designated for reading during the day.
- Each lesson includes the use of Story Cards to introduce phenomena and give students an entry point to engage in the learning. The Story Cards tie each lesson together as students develop conceptual understanding within the allotted number of days.
- Students develop content knowledge as they progress through the components of the lesson such as circle time, mini-lesson, and formative assessments. In grade 2 the Sound Unit includes students talking about vibration in Circle Time, then they move the rice to cause vibration during the mini-lesson.
- Students gain content knowledge as they work through each unit. Within each unit, there are formative and summative assessments. In grade 2 the beginning of the year assessment asks students to identify solids and liquids such as milk, water, and ice.

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Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem solving to make connections across disciplines and develop an understanding of science concepts.

- All scopes include multiple lessons where students can plan and conduct investigations that are centered around answering a question. In the unit for Sound, students answer questions as they investigate sound including, "What did you do when you heard the sound of the whistle/bell?", "What do you feel?", "What did you discover?", "What did the sounds tell us?", and "What causes sound?”
- Each lesson uses Story Cards to introduce a phenomenon. Students make observations and ask questions as they enter the learning of a concept with Story Cards. The Story Cards tie each lesson together.
- The lesson on Sound allows students to demonstrate, ask questions and plan and conduct classroom laboratory investigations and make connections across disciplines. For example, the Sound lesson connects to math. For example, students use place value to compare and order whole numbers up to 1,200 using comparative language and numbers.

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Indicator 2.2

Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

1	Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.	M
2	Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.	M
3	Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS. Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems. Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

Evidence includes but is not limited to:

Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices, recurring themes and concepts, and grade level content as outlined in the TEKS.

- Each scope has multiple opportunities for students to use scientific and engineering practices as they engage in each scope. Students can ask questions, make observations, plan and conduct investigations, gather data, and write scientific explanations.
- All lessons in a scope start with a Mini-Lesson using Story Cards that help drive student conceptual understanding while embedding recurring themes and concepts (RTCs). The cards state that phenomena start with observing the world around us. Then states that engineers ask questions, investigate, record data, and analyze data. These cards are available in grades K-2, and the lessons align with the TEKS. For example, in second grade, students investigate different types of severe weather.
- Each lesson begins with the use of Story Cards as phenomena. The Story Cards give students a common entry point for learning. The Story Cards follow a "story" that connects all lessons in the scope and drives students' conceptual development. Story Cards ask students to observe and discuss phenomena such as a pencil in water, a magnet attracting materials, and lighting coming from a storm cloud.

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Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.

- Each lesson begins with the use of Story Cards as phenomena. The Story Cards give students a common entry point for learning. The Story Cards follow a "story" that connects all lessons in the scope together and drives students' conceptual development. Lesson 1 of each scope includes an "Accessing Prior Knowledge" section that engages students in an activity to access their prior knowledge/experience related to a phenomenon or problem-solving.
- The first lesson in each scope includes an "Accessing Prior Knowledge" section that engages students in an activity to access their prior knowledge/experiences related to phenomena or problem-solving. For example, in the "Sound" unit, students say their names while touching their throats. Then describe what they feel. In the unit "Objects and Motion," students push different objects together and predict what will happen when they touch. Students push objects such as bumper cars and an egg.
- Materials include opportunities for teachers and students to use the Engineering Design Process. For example, in the "Light" lesson, students build and design kaleidoscopes. The lesson leverages students' prior knowledge and experiences related to phenomena and engineering problems. For example, in grade 2, students will focus on the first five steps of the Engineering Design Process (defining the problem, brainstorming, planning, building, and testing) to move a toy car to a garage 30 cm away by designing a ramp and using a collision.

Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

- Materials outline the concepts and goals behind engineering problems. For example, the first lesson, "Resources and Human Impact," outlines how scientists identify and use safe practices.
- Each scope outlines key concepts for teachers in the Engineering Connection description. For example, in Lesson 1, "Physical Changes," the description focuses on the first five steps of the engineering design process to design a monster that can laugh.
- The Standards Planning page provides an overview of student expectations for each scope. In all scopes, each lesson begins with using Story Cards as phenomena. The Story Cards follow a "story" that connects all lessons in the scope together and drives students' conceptual development. Guiding questions are provided for each Story Card, along with the expected sample students' responses.

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Indicator 3.1

Materials are designed to build knowledge systematically, coherently, and accurately.

1	Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels.	M
2	Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding.	M
3	Materials clearly and accurately present grade-level-specific core concepts, recurring themes and concepts, and science and engineering practices.	M
4	Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.	M

Meets | Score 6/6

The materials meet the criteria for the indicator. The materials are designed to systematically, coherently, and accurately build knowledge.

The materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels. The materials are intentionally sequenced to scaffold learning in a way that allows for an increasingly deeper conceptual understanding. The materials clearly and accurately present grade-level specific core concepts, recurring themes and concepts, and science and engineering practices. Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.

Evidence includes but is not limited to:

Materials are vertically aligned and designed for students to build and connect their knowledge and skills within and across units and grade levels.

- The materials include a Vertical Alignment of Science TEKS section with a "flashback" and "flash-forward" for each TEKS. The "flashback" informs teachers about what students learned in previous grade levels. The "fast-forward" informs teachers about what students will learn about the concept in future grade levels.
- The materials present content in a way that builds in complexity within and across units and grade levels. They are designed to help students connect new learning to previous and future learning. In the first lesson for each scope, the first section is Accessing Prior Knowledge. This portion of the lesson assesses students' understanding of learning from a previous grade level. For example, in the second-grade unit for Weather Conditions, in Accessing Prior Knowledge for

lesson 1, students review weather forecasts to determine how the weather impacts their life. Students use knowledge about how weather impacts daily choices in first grade.

- The materials are designed to help students connect new learning to previous and future learning. The Standards Planning section for each unit lists the Vertical Alignment for each TEKS in the scope. For example, in grade 2 Physical Properties of Matter scope, the students classify objects by flexibility and temperature. Listed in the vertical alignment is the standard for upcoming grade 3, called fast-forward, stating that students will classify objects by temperature, mass, and magnetism. Additionally, the second-grade Environmental Characteristics unit states that first-grade students study interactions and dependence between living and nonliving things. In second grade, they build on this idea when they describe how the physical characteristics of environments support plants and animals within an ecosystem. Students use this information in third grade to describe how environments affect organisms. Utilizing prior and future learning informs the teachers about the knowledge students bring with them and the expectations for the next grade level.

- The materials build from least complex to more complex within a grade level. For example, in grade 2, the students classify objects by temperature, mass, and magnetism. Within that same scope, students move to identify objects as solids or liquids. The later scopes, such as Weather Conditions, guide students to record types of extreme weather. Then they move to explain that some weather, such as hurricanes or tornadoes, is more likely to occur in certain regions.

Materials are intentionally sequenced to scaffold learning in a way that allows for an increasingly deeper conceptual understanding.

- The materials state the “curriculum is written to fully cover every science standard in each grade level. As the curriculum is built, lessons are ordered in the scope to help students truly construct an understanding of the content. Scopes are ordered to support the scaffolding of students' learning.” Each scope includes a succession of lessons the teacher implements to scaffold student learning while taking them deeper into the content toward conceptual understanding. The lessons start with prior knowledge activation and work through a structured plan starting with Circle Time and centers to ensure understanding. For example, in the second-grade unit for Changes to Land, there are ten lessons that begin with Accessing Prior Knowledge. As each lesson continues, there are mini-lessons and activities that scaffold students to the rigor of the standard. In the last lesson, students apply what they know when they read a book to discuss different changes to land and whether agents of wind or water formed them.
- Materials ensure students experience a phenomenon or problem before utilizing models as a tool for reasoning. For example, in the second-grade scope for Changes to Land, students interact with a Story Card where they see a picture of a sand dune and discuss how they think it was made. Afterward, students use a straw to gently blow sand in a shoebox to model how sand dunes are made.
- In the first lesson for each scope, the first section is Accessing Prior Knowledge. This portion of the lesson assesses students' understanding of learning from a previous grade level. For example, in the second-grade unit for Weather Conditions, in Lesson 1 for Accessing Prior Knowledge, students review weather forecasts to determine how the weather impacts their life, which ties into their knowledge from first grade.

- The lessons start with prior knowledge activation and work through a structured plan starting with circle time and centers to ensure understanding. In the Sound scope, the centers have students work on writing sound-related words such as vibrate or gel.
- The materials include a progression of reasoning. Starting with concrete, representational, then abstract reasoning when presenting concepts allows for an increasingly deeper conceptual understanding.

Materials clearly and accurately present grade level specific core concepts, recurring themes and concepts, and science and engineering practices.

- The materials accurately present core concepts. Materials are free from scientific inaccuracies across lessons, units, and grade levels. The materials present grade-level core concepts through TEKS-aligned lessons in each scope. The materials contain mini-lessons in each lesson plan to lead to deep understanding. In the mini-lesson for Scope of Sound, students start the lesson by clapping their hands. Then they use rubber bands to make instruments that vibrate.
- The materials accurately present recurring themes and concepts in the Recurring Theme Cards. The purpose of the cards is to help students deepen their understanding of concepts. The cards provide guidance on what students do, critical vocabulary, discussion prompts, and teacher notes. The cards are available in grades K-2.
- The materials present grade-level core concepts, recurring themes and concepts, and science and engineering practices. For example, the materials provide teachers with a Lesson Planning Guide that guides teachers as they lead science instruction. The Lesson Planning Guide includes an example lesson plan that provides teachers with a sample lesson plan that maps the scope in the 5E Instructional Model. This document also includes grade-level student learning objectives that show how the concept develops over time and what is expected from the students at each stage.

Mastery requirements of the materials are within the boundaries of the main concepts of the grade level.

- The materials present grade-level core concepts, recurring themes and concepts, and science and engineering practices. For example, the materials provide teachers with a Lesson Planning Guide that guides teachers as they lead science instruction. The Lesson Planning Guide includes an example lesson plan that provides teachers with a sample lesson plan that maps the scope in the 5E Instructional Model. This document also includes grade-level student learning objectives that show how the concept develops over time and what is expected from the students at each stage.
- The materials have a Claim Evidence Reasoning Assessment section in which students exhibit mastery of a concept. For example, in unit Sounds in grade 2, students read a scenario about sounds and are asked to write a claim about why a cymbal makes a sound. This exercise meets grade-level expectations while staying within the boundaries. Students are expected to explain that sound is made by vibrating matter and that vibrations can be caused by various means, including sound.
- Beginning-of-Year and End-of-Year assessments are designed to measure learning based on the standards addressed in that grade level and modeled after the state assessment for that grade level/band. The complexity level is based on teacher preparation, including materials and student grouping, as well as the level of work expected of students in the activity. The resources include formative assessments.

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- In each scope, under assessments, students can demonstrate mastery when they complete the Scope Assessment. In the second-grade unit for Unique Life Cycles, students complete the activities in the Engage, Explore, Explain, and Elaborate sections of the scope. Students construct and support an argument that shows unique animal life cycles where young animals do not resemble their parents and where animals are different at each stage of their life cycle.

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Indicator 3.2

Materials provide educational components to support teachers' content and knowledge coherence.

1	Materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content, recurring themes and concepts, and scientific and engineering practices.	M
2	Materials contain explanations and examples of science concepts, including grade-level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.	M
3	Materials explain the intent and purpose of the instructional design of the program.	M

Meets | Score 6/6

Materials meet the criteria for the indicator. Materials provide educative components to support teachers' content and knowledge coherence.

The materials provide educational components to support teachers' content and knowledge coherence. The materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade-level content, recurring themes and concepts, and scientific and engineering practices (SEPs). Materials contain explanations and examples of science concepts, including grade-level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. The materials explain the intent and purpose of the instructional design of the program.

Evidence includes but is not limited to:

Materials support teachers in understanding the horizontal and vertical alignment guiding the development of grade level content, recurring themes and concepts, and scientific and engineering practices.

- The Standards Planning section of the scopes landing page includes the TEKS covered by the scope and an explanation of what students learned before the scope and what students will learn in the next grade level. For example, in the second grade Sound unit, where students focus on sound energy, the materials explain that in grade 1, students learned about heat energy, and in grade 3, students will identify everyday examples of energy, including light, sound, thermal, and mechanical.
- The instructional materials include guiding documents that support teachers in understanding how new learning connects to previous and future learning across grade levels. For example, the

materials include a vertical alignment section with a fast forward and flashback with TEKS for each scope.

- The materials include guiding documents that explain how content and concepts increase in depth and complexity across lessons and units within the grade level. In each scope, the succession of lessons supports the teacher in scaffolding student learning while taking them deeper into the content toward conceptual understanding. For example, the second-grade Environmental Characteristics unit states that in first grade, students study interactions and dependence between living and nonliving things. In second grade, they build on this idea when they describe how the physical characteristics of environments support plants and animals within an ecosystem. Students use this information in third grade to describe how environments affect organisms.

Materials contain explanations and examples of science concepts, including grade level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.

- The materials support the teacher's content knowledge. The materials provide background information for teachers and information about common grade-level misconceptions, with support for teachers in developing their own understanding of more advanced grade-level concepts. For example, in the Seasons unit, the teacher is given background information and graphics on seasons, such as spring is a time of renewal.The materials include misconceptions regarding temperature and the Earth’s tilt, and there is support for teachers to develop their understanding of more advanced, grade-level concepts.
- The materials include information for teachers about common grade-level misconceptions that hinder student conceptual development. The materials include a preconceptions section that informs teachers about misconceptions students may have as they enter the learning and provides guidance on how to address them. The materials guide the teacher to engage students in Accessing Prior Knowledge (APK) to assess their understanding. The guidance suggests that teachers keep the preconceptions that are not covered during this APK in mind as they move through the scope. For example, in the Resources and Human Impact unit, students use APK to pre-assess their understanding. After this section, there are notes for the teacher in the following section, Preconceptions. Preconceptions are misconceptions the students may have as they enter the learning and how to address them. The materials inform the teacher that: 1) Students may not know what natural resources are because so many products used by humans no longer resemble the resources from which they came; students should know that natural resources are commonly used to make new materials. For example, trees are a natural resource used to make paper; 2) Students may believe that Earth’s resources are unlimited and always replenished. Resources that take a long time to replace include oil, natural gas, and coal. Once these are used, they cannot be replaced in one lifetime. Humans must protect our resources by conserving them. 3) Students may view rocks and minerals as unimportant. Almost every product used in daily life contains or depends on minerals that must be mined. Examples of everyday objects made from minerals include pencils, toilets, dental floss, watches, computers, vacuums, matches, and batteries. 4) Students may be unaware of how their actions impact Earth. Actions such as littering, using too much water, polluting, etc., impact our environment’s water, air, plants, and animals.
- The Teacher Background tab provides teacher guidance and information about the science content, examples of content, and common misconceptions. For example, in the Physical Changes unit, the materials support teachers in Explaining how physical properties can be

changed, demonstrating that small units can be combined or reassembled to form new objects for different purposes, and explaining that materials are chosen based on their physical properties.

Materials explain the intent and purpose of the instructional design of the program.

- The materials provide a purpose or rationale for the program's instructional design. For example, the STEMscopes Framework includes an explanation of the STEMscopes Pedagogy. It states, "STEMscopes is a tightly and 100% TEKS aligned, online curriculum, which provides a complete, coherent, and supported pathway for the academic success of students using an enhanced 5E instructional model."
- The materials provide a framework explaining the goal of the program. For example, the STEMscopes Pedagogy states, "It is the goal of STEMscopes to provide an inquiry-based curriculum, which incorporates the research-based, constructivist phases of the BSCS 5E Instructional Model (Bybee et al., 2006), the key findings from the National Research Council's report, How People Learn (2000), the Texas Essential Knowledge and Skills (TEKS) (TEA, 2021), and an additional level of support for English Language Proficiency Standards (ELPS) (TEA, 2017)."
- The materials have a pedagogy section that explains the 5E model on which the lessons are based. The curriculum is inquiry-based. The lessons match the TEKS and include ELPS. Teachers are provided a sequenced pathway, resources, and support for meeting the needs of all students. This model supports the program's purpose by incorporating the 5E design in the structure of the lessons. For example, a phenomenon is introduced through the story cards to activate prior knowledge inviting students to ENGAGE. Students work through the skill introduced in the mini-lesson in a hands-on way to activate the EXPLORE. Students pair up with a partner to EXPLAIN what the new learning is. Students record their learning in the Interactive Science Notebook to ELABORATE on the learning. Lastly, during EVALUATE, teachers assess student understanding to inform instruction.

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Indicator 4.1

Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

1	Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.	M
2	Materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts.	M
3	Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.	M
4	Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. The materials provide multiple opportunities for students to engage with grade-level appropriate scientific texts to gather evidence and develop an understanding of concepts. They provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts. The materials support students to act as scientists and engineers who can learn from engaging phenomena and engineering design processes, make sense of concepts, and productively struggle.

Evidence includes but is not limited to:

Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.

- The materials support students' sensemaking through reading, writing, and thinking as scientists and engineers. In lesson 2 of the Physical Properties Scope, the teacher encourages students' thinking by asking questions about changing the physical properties of a piece of paper. After the mini-lesson on physical changes, students read and write in their journals explaining how folding a piece of aluminum foil can cause a physical change.
- The materials in each grade build on previously encountered concepts through activities to help with sense-making. The steps in each lesson reinforce concepts to help students make sense of each topic. Each lesson starts with circle time, moves to the mini-lesson, and wraps up the mini-lesson. Then the students have activity time, word wall connections, and lastly, differentiation. Additionally, each Scope has reading and writing activities embedded.

- The materials provide students the opportunity to act as engineers. For example, in Changes to Land, Lesson 1, students review a Story Card with examples of different sand dunes and prompts that guide students to think about what causes sand dunes to look the way they do. Students use shoeboxes, sand, and straws to model how sand dunes are formed, and then discuss how the process occurs in nature.
- The materials provide students the opportunity to act as scientists. For example, in the scope Changes to Land, Lesson 5, students review the Story Card, where they compare natural formations on Earth. Students then use straws to model the wind and experiment with wet and dry sand to determine which is easier to move.

Materials provide multiple opportunities for students to engage with grade level appropriate scientific texts to gather evidence and develop an understanding of concepts.

- The materials provide opportunities for students to engage with scientific texts to develop their understanding of concepts. Students use text to gather data and develop an understanding of concepts. For example, an Active Reader (Making Changes) is in the Scope Physical Changes. Students read and respond to prompts throughout the book. Examples of student activities found in the book include determining the tool used to change various objects and comparing changes in the physical properties of different objects after adding thermal energy.
- The materials provide opportunities for students to use text to gather data and develop understanding. For example, in the Environmental Characteristics Scope, Lesson 10: Rain, Rain, You Make a Difference Today, students listen to the book “Rain, Rain, You Make a Difference Today” and discuss the different environments on either side of a rain shadow mountain and the effects that the amount of rainfall has on living organisms.
- The materials include Leveled Readers and an Active Reader for each scope. Students use the readers to develop an understanding of concepts. For example, the Sound Scope includes the Active Reader, “Sounds All Around,” that asks comprehension questions throughout the reading. Students work independently to complete the activities within the reader.
- The materials in grade 1, Lesson 5: Graphing Weather Information, include Word Wall with Wallace, the Wordy Walrus vocabulary activity with cards, weather, temperature, precipitation, vocabulary raps, and word wall cards. The students review the vocabulary words and rap the review with the word wall connection.

Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.

- The materials provide opportunities for students to engage in various graphic modes of communication to demonstrate an understanding of scientific concepts. For example, in Lesson 1 of Unique Life Cycles, students complete a graphic organizer to compare a fish’s and a butterfly’s life cycles in their Interactive Science Notebook.
- Students engage in written communication to display an understanding of scientific concepts. For example, in the Weather Conditions Scope, students complete Claim-Evidence-Reasoning as they write an explanation of how different types of severe weather events, such as a hurricane, are more likely to occur in specific geographic regions

- Students engage in written and graphic communication when using their Interactive Science Notebooks. In the grade 2 scope, Objects in the Sky, students circle the characteristics of stars and write a sentence explaining how the sun is a star.
- The materials for Lesson 5: Traveling Seeds, include an investigative phenomena video and questions for each group to answer. The students observe digital images of an animal with burrs on its coat and a coconut floating in the water. There is an interactive science notebook handout in which students write an explanation of how burrs can move around a yard and how water can carry coconuts from one island to another island.

Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.

- Each scope includes an Engineering Connection where students participate in an engineering challenge. They act as engineers by working through the engineering design process to solve a problem. Each engineering challenge presents students with a problem, criteria, and constraints for solving it. Working within the criteria and constraints engages students in a productive struggle. For example, in the scope Changes to Land, the Engineering Connection challenges students to create a flower box design. The problem is “every time you plant some seeds, it rains, and the rain coming off the roof washes the seeds and soil away.” Students must design a model that prevents the rain from washing the seeds away. Their designs must follow the criteria and constraints, which include: showing the house and flower bed, demonstrating how the flower bed will be protected from the rain coming off the roof, proving that the seeds are not to be buried in the soil, creating a labeled drawing or sketch of the solution before building it, and only using the materials provided. By solving this engineering challenge, students can make sense of the concept of wind and water moving soil and rock particles across the Earth's surface.
- The materials support students as they act like scientists and engineers. For example, in the Scope for Sound, in Engineering Connection, students focus on the first five steps of the Engineering Design Process (defining the problem, brainstorming, planning, building, and testing) to design and construct devices to communicate quietly with a friend who is standing halfway across the room. Additionally, in the Scope for Resources and Human Impact, in Engineering Connection, students focus on the same first five steps of the Engineering Design Process to design and build objects using only reusable materials.
- The materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle. For example, in Environmental Characteristics, the activity requires students to focus on the first five steps of the Engineering Design Process (defining the problem, brainstorming, planning, building, and testing) to design and construct a model of an area where an animal can hibernate. Additionally, the Engineering Connections section of Lesson 2 in the Sound Scope provides criteria and constraints that produce complications for the students as they act like engineers and follow the engineering design process to make a device to communicate quietly with a friend across the room.
- Students engage in phenomena when listening and discussing the Story Cards in each scope. For example, in the Weather Scope, students listen to and look at a picture of Eli, the bird walking outside. The wind blows the leaves and Eli’s hat off, and there are dark clouds. The students talk with a partner about different weather and what might be happening in the picture. In a later lesson, students experience wind produced by a fan.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 5.1

Materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

1	Materials prompt students to use evidence to support their hypotheses and claims.	M
2	Materials include embedded opportunities to develop and utilize scientific vocabulary in context.	M
3	Materials integrate argumentation and discourse throughout to support students' content knowledge and skills development as appropriate for the concept and grade level.	M
4	Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. The materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

The materials prompt students to use evidence to support their hypotheses and claims. The materials include embedded opportunities to develop and utilize scientific vocabulary in context. The materials integrate argumentation and discourse throughout to support students' content knowledge and skills development as appropriate for the concept and grade level. These materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.

Evidence includes but is not limited to:

Materials prompt students to use evidence to support their hypotheses and claims.

- The materials prompt the student to use evidence to support their hypotheses. For example, in the scope for Objects and Motion, students hypothesize what will happen while looking at pictures of pushes and pulls, such as a baby pushed in a stroller. The students discuss what might happen if the stroller runs into a bump. Will it change or stop the motion? The students make a claim about the movement of objects before experimenting by pushing an object into an obstacle and recording the change. After students observe the objects in motion, they can support or refute their claim that the object did (or did not) stop or change.
- The materials prompt students to use evidence to support a claim. For example, in the Scope for Sound, students watch a video on Sound. Then they make a claim by completing this sentence: "These things will make a sound_____." Students experiment by testing whether or not the given objects produce sound. Students support or refute their claim that "these things will make a sound."
- The materials prompt students to use evidence to support their hypotheses and claims. For example, in the Scope for Objects in the Sky, Lesson 1: Starstruck, students determine if the information on the 'Star or NOT Star' cards is correct. Students are grouped to discuss what classifications an object must meet to be considered a star and share with the class. The teacher

records the accurate statements on the board for students to reference during the activity. Working in small groups, students take turns drawing a card and reading or showing a picture of the object. The group discusses and must unanimously decide if the object is a star, and add it to the 'Star or NOT Star' pile. After students sort the cards into correct and incorrect, they share their findings as a class to agree about which ones were correct or incorrect using the evidence statements that the teacher recorded on the board before the activity.

- Materials prompt students to use evidence to support their hypothesis and claims. For example, in the Scope for Unique Life Cycles, students complete a Claim-Evidence-Reasoning to write an explanation to respond to a scenario using the evidence provided. The scenario prompts students to identify the stage where a terrarium would be too small for a monarch butterfly.

Materials include embedded opportunities to develop and utilize scientific vocabulary in context.

- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience to help students contextualize new terms. For example, in the Scope for Food Chains, Lesson 1: Plants and Animals, students learn about the energy flows between plants and animals in food chains. Students explore and observe multiple representations of the vocabulary shown in the Vocabulary Cards. Students use the new vocabulary in their Interactive Science Notebooks when they list plants and animals from a picture and draw an arrow to show the flow of energy.
- The materials include opportunities to develop and use vocabulary after having a concrete or firsthand experience to which they can contextualize new terms. For example, in the Scope for Objects and Motion, Lesson 1: Just a Touch, students learn what happens to an object's motion when it is touched. Students explore and observe multiple representations of the vocabulary shown in the Vocabulary Cards. Students can use the new vocabulary in their Interactive Science Notebooks when they draw arrows to show the directions of two marbles after they touch them and write a sentence to explain what happened.
- There are opportunities to use science vocabulary in context. For example, in the Scope for Sound, students learn that vibration creates sound. Then students watch a video on sound and answer questions using sound vocabulary such as loud, quiet, and vibration. They draw a picture of something that makes a sound, and describe it to a partner using sound vocabulary. In the intervention lesson of this Scope, students play a call-and-response game. When the teacher says "vibrate," the students reply, "shake quickly." After this game, students describe sounds made by different objects using the word vibration.

Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills development as appropriate for the concept and grade level.

- The materials integrate argumentation and discourse within stages of the learning cycle. For example, in the Scope for Objects in the Sky, Lesson 4: Borrowed Light, during Circle Time, students construct an argument for their interpretation of the phenomena they observe. Materials provide instructional support, including guiding questions for the teacher to help students provide information about the phenomena. The Materials direct students to include reasons or references as evidence.
- The materials provide opportunities for students to understand how to engage in regulated argumentation and discourse. For example, in the Scope for Weather Conditions, in the Engineering Connection, students engage in argumentation and discourse as they engage in the Engineering Design Process to design structures that will provide shelter from wind, rain, hail,

and strong sunlight for the sensitive flowers planted in a school garden. As a group, students are expected to define the problem, brainstorm, plan, build, and test. Teachers are provided with support for implementation during this process.

- The materials integrate argument and discourse throughout the lesson to support content knowledge. For example, in Scope for Weather Conditions, the teacher guides the students in discussing what is hot or cold after reading a thermometer. The students describe what they see on the thermometer, such as lines and numbers. The teacher asks the students if the line on the thermometer will go up or down when placed in hot water. The materials provide teacher support with possible student replies, such as the change in the thermometer is caused by a change in the water temperature. The students describe other ways the line will go up and down. Then students discuss and decide what will make the red line move up or down.

Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.

- The materials provide criteria for developmentally appropriate arguments to explain a phenomenon or defend a solution to problems using evidence acquired from learning experiences. For example, in the Scope for Resources and Human Impact, as students complete the Claim-Evidence-Reasoning to write and support an argument for a scenario, they are provided with a rubric for the explanation.
- The materials provide an opportunity for students to justify explanations of phenomena and solutions to problems using written and verbal arguments using evidence from learning experiences. For example, in the Scope for Sound, students place a ruler on the edge of their desk to see the vibration. Then they think of ways vibration makes a sound. The ruler vibrating could be making the sound. They justify the explanations after watching a Sound video.
- The materials provide criteria for developmentally appropriate arguments to explain a phenomenon or defend a solution to a problem using evidence acquired from the learning experience. All K-2 materials have a Claim-Evidence-Reasoning assessment for students to complete when a scope is finished. The students state their claim, provide evidence in writing, and give a reason for the claim. In the Scope for Weather Conditions, students write a claim on what type of weather a character is experiencing. Then they write or draw an observation of the weather experienced. The teacher grades upon completion.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 5.2

Materials provide teacher guidance to support student reasoning and communication skills.

1	Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.	M
2	Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context.	M
3	Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.	M
4	Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials provide teacher guidance to support student reasoning and communication skills.

The materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. The materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. The materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims. The materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.

Evidence includes but is not limited to:

Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.

- The materials provide teachers with possible student responses to questions and tasks. For example, in the Scope for Physical Changes, Lesson 8: New Structures, New Purposes, students view a video during Circle Time before investigating. The teacher materials provide questions to guide student thinking through the activity, as well as expected student responses to each question. Teachers provide the following statements, "The physical properties of paper cannot be changed.", "Sanding a piece of wood changes its physical properties.", "Objects can be combined.", "Some objects cannot have physical changes.", "Objects cannot be combined for different purposes.", and "Melting changes an ice pop's physical properties." Students are expected to respond with true or false responses.
- The materials provide teacher responses to possible students' responses, including how to build on students' thinking. For example, in the Scope for Physical Properties of Matter, Lesson 5: Properties of Matter, during the Mini-Lesson, students engage with the story card to frame their thinking before they investigate. The teacher materials provide questions to guide and build on student thinking through the activity and possible student responses. The teacher asks questions such as, "How are the objects the same?" The expected students' answers may vary. Responses could include *matter*. The teacher continues with, "How are the objects different?"

The expected students' responses may vary. Then, the teacher asks, "Did the textures of different things change? Student responses may vary. Lastly, the teachers ask, "Why did some solids become liquids?" Students are expected to respond, "They were heated; they became warmer."

- The materials provide guidance on anticipating student responses and the use of questioning to deepen student thinking throughout the Scopes. In the Scope for Objects in Motion: Accessing Prior Knowledge, students decide which statements about objects and their motion they agree with most. Any preconceptions are addressed as students move throughout the Scope. The materials suggest that students may think of force as a property of an object rather than a relationship between objects. “Students should know that objects do not possess force. Forces are applied to them. Students may not understand that forces do not always produce observable effects. Students should know that an object may not move without a sufficient push."
- The materials provide guidance on anticipating student responses and the use of questioning to deepen student thinking. In the Scope for Sound, Lesson 2: Happy Strings, the teacher asks students to clap their hands and asks, "What is sound?" and "What produces sound?" Students make instruments that use vibrations to produce sound. Students explore and are asked, "What do you see vibrating?" "How did you make the rubber band vibrate?, and "What does the vibration cause?"

Materials include teacher guidance on how to scaffold and support students’ development and use of scientific vocabulary in context.

- The materials provide embedded support for the teacher in how to introduce and scaffold students’ development of scientific vocabulary. For example, in the Scope for Changes to Land, Lesson 1: Sand Dunes, the activity Word Wall with Wallace the Wordy Wallace introduces and scaffolds new vocabulary with students and has students practice using the words in context. During this lesson, students learn the terms *wind* and *movement*. There are vocabulary cards with pictures and definitions included to review with students. There are also Vocabulary Rap Videos for both words.
- The materials provide embedded support for the teacher in how to introduce and scaffold students’ development of scientific vocabulary. For example, in the Scope for Sound, Lesson 1: Sound Walk, the activity Word Wall with Wallace the Wordy Wallace introduces and scaffolds new vocabulary with students and has students practice using the words in context. During this lesson, students learn the word Sound. A vocabulary card with a picture and definition is included to review with students. There is also a Vocabulary Rap Video for Sound.
- The materials include guidance on how to support the development of scientific vocabulary in context. For example, the Scope on Sound provides word wall words and videos. This lesson on vibration starts with students learning that vibrations make sound. They see musical instruments and use the word *vibration* to describe the sounds. Students then watch a video entitled “Sound.” The materials include scaffolds, including the teacher stating the word vibrate, and the students restating the word and drawing a picture to show vibration.

Accelerate Learning STEMscopes Science TX Grade 2

Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.

- The materials provide teacher support to prepare for student discourse by providing opportunities for students to practice sharing, listening to, and evaluating whether they agree with one another's ideas. For example, in the Scope for Environmental Characteristics, Lesson 1: The Nonliving Help the Living, students engage in an activity where they read statements to determine if the statement is correct, partly correct, or incorrect. Students then explain their thinking as noted under options.
- The materials provide teacher questions for supporting student discourse and using evidence in constructing written and verbal claims. During the Wrap-up for each lesson, students discuss the evidence they collected during an investigation. For example, in the Scope for Food Chains, Lesson 8: Wind and Water Pollination, students discuss how plants depend on wind and water for pollination. The activity closes with the student completing a sheet for their Interactive Science Notebook to determine if plants in the picture can be pollinated by wind or water.
- The materials provide guidance that teachers can use to provide feedback to students while engaging in discourse. For example, in the Scope for Unique Life Cycles, as students complete the Claim-Evidence-Reasoning response, the rubric gives the teacher guidance on providing students feedback. Also, on the landing page for Claim-Evidence-Reasoning, in the Activity section, it offers possible responses for students based on their performance during the activity.
- The materials provide guidance on preparing the teacher for classroom student discourse. "Exploring as Scientists and Engineers" is a document that gives steps for the teacher to follow to guide students' discourse. The steps include observing the world around us and then asking questions. As students work through a skill, the teacher asks questions and then has students talk about when and where the question can be answered. The students work with classmates and practice listening and then talking.

Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.

- The materials provide teacher support and guidance to engage students' thinking in various modes of communication throughout the year. For example, in the Scope for Animal Structures and Behaviors, Lesson 6: Group Protection for Animals, the teacher asks students guiding questions to preview the expectations for the activity together as they look at how animals work in groups to protect themselves. When finished, students complete the activity as a group. Teachers ask, "When do you think animals might want to protect themselves? " and "How do you think animals can protect themselves in a group?"
- The materials provide teacher support for facilitating the sharing of students' findings. For example, in the Scope for Plant Structures and Functions, in Engineering Connection, students work in groups to design and create devices that allow multiple people to drink simultaneously. The materials provide a student handout to guide them through the process. Also, within the text of the landing page, the materials include guidance for the teacher on how to implement it. Students Define the Problem, Brainstorm, Plan, Build, Test, Redesign, and Share and Critique.
- The materials provide teacher support for facilitating the sharing of students' finding solutions. The materials offer feedback tips and examples teachers can use to support students throughout the learning cycle. For instance, in the Scope for Environmental Changes, the teacher is directed to show the students a picture of a squirrel in hibernation. Students discuss

conditions that cause hibernation. Students are instructed to create a model of where an animal could hibernate. If students are stuck, the teacher is directed to ask: “What is hibernation?” and “What is the connection between the environment and hibernation?” A possible answer is animals hibernate to cope with difficult conditions.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 6.1

Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

1	Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.	M
2	Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.	M
3	Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts.	M
4	Materials include assessments that require students to apply knowledge and skills to novel contexts.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in various formats. Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment. Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts. Materials include assessments that require students to apply knowledge and skills to novel contexts.

Evidence includes but is not limited to:

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.

- Materials include diagnostic assessments for measuring student learning and identifying learning gains in various formats. For example, in the Scope for Plant Structures and Functions, Lesson 1: Plants I See, during Accessing Prior Knowledge, the teacher can pre-assess a student's prior knowledge and uncover misconceptions before entering grade-level learning. During this activity, students identify and describe how the structures of plants help them meet their basic needs.
- Materials include formative assessments in various formats to measure student learning and determine the next steps for instruction. For example, in the Scope for Unique Life Cycles, each lesson ends with an opportunity for students to show what they know during the Wrap-Up as they complete a sheet for their Interactive Science Notebook to respond to a prompt about what they have learned. In Lesson 1, students identify how the life cycles of a fish and a butterfly are alike and different. In Lesson 2, students identify the butterfly life cycle stages in an image. In Lesson 3, students draw lines from the butterfly life cycle names to their descriptions. In Lesson 4, students circle the butterfly life cycle words that match the images. In Lesson 5, students draw and write about the butterfly life cycle stage they think is the most interesting. In

Lesson 6, identify the stages of the frog life cycle in an image. In Lesson 7, look at pictures of a frog in various stages of its life cycle and identify whether the image shows the frog as a parent or young. In Lesson 8, students identify the stages in the life cycle of a frog. In Lesson 9, students match the frog life cycle stages with their descriptions. In Lesson 10, students complete the Claim-Evidence-Reasoning and Writing Science activities.

- Materials include diagnostic assessments for measuring student learning and identifying learning gains in various formats, including formative and summative. For example, there is a written beginning and end-of-year assessment that students take independently. These tests address questions that cover a majority of the standards. In addition, there are Scope Assessments at the end of each Scope. For example, the Sound Scope asks, "What causes you to hear the sound this drum makes?" The teacher is directed to allow students to answer in writing or orally based on their needs.

Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.

- The materials assess all student expectations by grade level, as outlined in the TEKS. For example, the materials include TEKS-aligned assessments that align the curriculum standards and student expectations measure student understanding and mastery of the concepts and skills taught in the materials. The Standards Matrix indicates which TEKS are taught and assessed in each Scope.
- The materials indicate which student expectations are assessed. For example, on the landing page for each Scope, Standards Overview lists the TEKS taught and evaluated in the scope. Students' Learning Objectives state what students should be able to do by the end of the scope. The suggested Scope Calendar provides a list of assessment opportunities in each lesson.
- Materials assess all students' expectations. The lessons include detailed TEKS-based plans that include a way to teach each standard. The plans guide how to access student learning. For example, the scope for Changes to Land starts by naming standards and then lists student learning objectives that mirror the standards.
- The materials do indicate which student SEs are assessed. There is a data sheet at the end of each scope. This sheet has I can statements with TEKS listed by each statement. For example, The Scope for Sound states that “I can determine that a sound is made by vibration.” The standard (key concept) is below each statement.

Materials include assessments that integrate scientific concepts and science and engineering practices with recurring themes and concepts.

- The materials include assessments that require students to integrate scientific knowledge and science and engineering practices with recurrent themes appropriate to the student expectation being assessed. In the Animal Structures and Behaviors Scope, Lesson 5: Behaviors to Find and Obtain Food and Water, students review and discuss other examples of animals that hide and wait for prey. This activity assesses students’ knowledge of animal behaviors. The recurring theme of structures and functions is integrated with this activity. Scientific and engineering practices of communicating explanations are also included in the activity as they complete the page for the Interactive Notebook. On this page, students are expected to determine if animals are seeking food or water, and then they will give another example of a behavior that helps an animal obtain water or food.

- The materials assess all student expectations by grade level, as outlined in the TEKS. For example, in the Scope for Plant Structures and Functions, the Claim-Evidence-Reasoning activity assesses the read and assess the information from the scenario while integrating the recurring theme of structures and functions, and scientific and engineering practices of analyzing and interpreting data and communicating explanations.
- The materials do include assessments that integrate scientific concepts and science and engineering practices. Each Scope has a Claim-Evidence-reasoning assessment. In the Scope for Magnets, the students are asked to
- Materials include assessments with recurring themes and concepts. The RTC Cards are the same for K-2. Each card has a standard listed and questions to help students explore and make connections between concepts. For example, "Describe the properties of objects in terms of relative size and relative quantity. Questions on this card include: How long is it? How heavy is it? Which is longer/shorter? Which is heavier/ lighter? There is a section for teacher notes so teachers can assess if students have mastered them.

Materials include assessments that require students to apply knowledge and skills to novel contexts.

- Materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. For example, in the Scope for Plant Structures and Functions, Lesson 10: The Drive to Survive and Thrive, students listen to the book The Drive to Survive and Thrive to discuss what plants need to survive and how their structures function for their survival. While reading the story, the teacher asks students the following questions, "Why would Eli and his friends need to plant seeds in April?", "What might happen if the seeds are planted too close together?" "Why are the cages so important for the tomato plants?", "Do you think the bees are helpful or hurtful to the plants?" "What is the function of the tomatoes?" and "Do you think that Chelsea and Quincy might give up on their strawberry plants? Would you?" This activity assesses students' ability to apply their knowledge of plant structures and functions.
- Materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. For example, in the Scope for Unique Life Cycles, in the Claim-Evidence-Reasoning activity, students analyze the picture of different stages of a butterfly and the accompanying data table to identify the terrarium that would be too small for a monarch butterfly and the evidence to support their answer. This activity assesses students' knowledge of the unique life cycle of a butterfly.
- Materials include assessments that require students to apply knowledge and skills to a new phenomenon or problem. For example, in the Scope for Sound students listen as the teacher makes different sounds with instruments such as a drum. Then students talk with a partner about the way sound is made. Then they see a pitchfork used to make sound and discuss vibration. They are assessed by being asked to explain that sound is made by vibration.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 6.2

Materials include guidance that explains how to analyze and respond to data from assessment tools.

1	Materials include information and/or resources that provide guidance for evaluating student responses.	M
2	Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level.	M
3	Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.	M
4	Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include guidance that explains how to analyze and respond to data from assessment tools.

Materials include information and/or resources that provide guidance for evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual student's needs, in all areas of science, based on measures of student progress appropriate for the developmental level. Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension. Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

Evidence includes but is not limited to:

Materials include information and/or resources that provide guidance for evaluating student responses.

- Materials include information that guides teachers in evaluating student responses. Materials guide teachers to look for specific components when evaluating student responses. For example, the Scope for Plant Structures and Functions, provides teachers with questions before, during, and after Lesson 3: Why Do Plants Have Roots? Before the lesson, the teacher asks, "What do you notice about the size of the roots compared to the size of the rest of the plant?" and students' answers may vary. A possible student response could include, "The roots are larger as the plant is larger." The teacher also asks, "What else do you think is a function of the roots for a plant?" Student answers may vary, but they should respond, "The roots absorb water and nutrients to send to the rest of the plant." During the lesson, the teacher asks, "How does this activity relate to the roots of a real plant?" Student answers may vary, but they should respond, "Plants have roots that help them stand on their own." The teacher also asks, "What would be one thing about roots we were challenged to recreate in this activity?" as students engage in the investigation and are expected to respond, "Roots go under the ground to build their support." After the lesson, the teacher asks students to complete an image and fill in the blanks about the function of roots. Students should respond with a yes or no about whether or not they agree with the statement.

- Materials include resources that guide teachers in evaluating student responses as they write scientific explanations. Materials provide a generalized rubric teachers can use to evaluate whether students are rated as 2, 1, or 0 for each component of the explanation. This rubric can be used within any Claim-Evidence-Reasoning activity. The rubric defines the criteria for each component. For example, students are rated as a 2 if they make a claim and draw and write accurate pieces of evidence. Students are a 1 if they make an inaccurate claim and draw or write an accurate piece of evidence. Students are a 0 if they did not make a claim and did not draw or write accurate pieces of evidence.
- Materials include information for teachers to evaluate students' responses. There is a Checking For Understanding Learning Pathways with a flow chart explaining to teachers a path a student can take after completing an assessment. For example, if a student is successful on an assessment, the acceleration might include a choice board. If the students require intervention, small group resources are available. The teacher is directed to the available resources on this flow chart.

Materials support teachers' analysis of assessment data with guidance and direction to respond to individual students' needs, in all areas of science, based on measures of student progress appropriate for the developmental level.

- The materials include assessment tools that yield data teachers can easily analyze and interpret. The materials provide guidance documents and resources to support teachers' analysis and interpretation of assessment data. For example, The Scope for Physical Changes includes data sheets to analyze data by concepts mastered.
- The materials provide BOY and EOY assessments and answer keys for kindergarten, grade 1, and grade 2. Teachers can use this data to respond to individual student needs in all areas of science, based on measures of student progress appropriate for the developmental level.
- Materials provide guidance documents and resources to support teachers' analysis of assessment data. Each Scope K-2 has a data sheet at the end of the Scope. Materials provide guidance instructing teachers to evaluate the data responses and mark the level of mastery for each key concept.

Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.

- Assessment tools yield relevant information for teachers when planning instruction, intervention, and extension. The materials include an RTI chart explaining student success and related responses. The materials guide the teacher to identify students who will need more practice to achieve mastery of the content and provide the teacher with tiered intervention strategies for each Scope. For example, if 80% of students understand a concept, they would engage in the Scope phenomenon. The 10-15% of students needing reinforcement would meet with the teacher 30 minutes daily and use Picture Vocabulary. The 5-10% of students needing intervention would meet in a small group daily and use Guided Practice.
- Materials provide the key concepts students should master by the end of the scope.The materials provide guidance for teachers on the next steps based on student performance on assessments. For example, in Unique Life Cycles, the materials state students should know 1) All animals experience life cycles, 2) Butterflies and frogs experience life cycles in which the young animals do not resemble their parents, 3) Butterflies undergo four distinct stages to complete

their life cycles: egg, larva, pupa, and adult, 4) Frogs undergo four distinct stages to complete their life cycles: egg, tadpole, froglet, and adult. The materials explain that the teacher will identify the students who will need more practice to achieve mastery of the content and need to engage in additional learning/practice.

Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

- The materials provide a variety of student resources for teachers to use in responding to performance data. For example, in the Scope for Unique Life Cycles, the Small-Group Intervention tab includes Guided Practice and Active Practice for teachers to have students further practice the concepts in the scope as needed.
- The materials provide resources and guidance for teachers to respond to performance data. Teachers may use the K-2 Differentiated Pathway document to determine students' next steps as they develop understanding within a scope.
- Each scope contains one small-group intervention activity. Each activity breaks down into guided and active practice sections. These intervention lessons include a key concept, such as "Tornadoes and floods are severe weather events." Each lesson guides the teacher to lead students through activity and questioning. After the lesson, there is additional Tiered Intervention Support teachers can use with students who need more practice. For example, the Scope for Physical Properties of Matter includes a Small Group Intervention tab with tiered intervention strategies for teachers to use with students. In Tier 1, students separate cards face down into two groups; one for vocabulary words and one for definitions. The object is to match the card to the definition. Tier 2 includes half the vocabulary terms and definitions. Students take turns matching them. Materials provide some resources on how different activities can be used to respond to student data.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 6.3

Assessments are clear and easy to understand.

1	Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.	M
2	Assessment tools use clear pictures and graphics that are developmentally appropriate.	M
3	Materials provide guidance to ensure consistent and accurate administration of assessment tools.	M
4	Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Assessments are clear and easy to understand.

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors. Assessment tools use clear pictures and graphics that are developmentally appropriate. Materials provide guidance to ensure consistent and accurate administration of assessment tools. Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

Evidence includes but is not limited to:

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.

- Assessments contain items for the grade level that are scientifically accurate. For the Scope for Plant Structures and Functions, Lesson 6: Why Do Plants Have Fruit and Seeds?, the Wrap-up Interactive Science Notebook activity, students cut and paste pictures of the fruits that match the seeds pictured and answer questions about the functions of seeds and fruits. In the answer key, it states fruit protects and contains the seeds, and seeds are made by a plant and contain the new plant.
- Assessments contain items for the grade level that are scientifically accurate. For example, the assessment in the Scope for Changes to Land accurately asks students to look at pictures from a selection of railroad tracks and surrounding land, beachfront, sand, dunes, and flat lands. Then, they pick pictures that show changes to the land made by wind. The pictures accurately show land changes made by wind.
- Assessments contain items for the grade level or course that avoid bias. For example, in the Scope for Animal Structures and Behaviors, Lesson 5: Animal Behaviors, the character pictured on the handout has a cochlear implant.
- Assessments contain items for the grade level or course that avoid bias. In the Scope for Changes to Land, the assessment pictures both urban and rural settings.
- Assessments contain items for the grade level or course that are free from errors. For example, in the Scope for Unique Life Cycles, in the Scope Assessment handout, question 2 shows the life cycle of a dragonfly and asks, “What body part does an adult have that a nymph does not have?” The expected response states wings.

- The assessments are free from error. In the Scope for Changes to Land, a model of a town asks students which will be affected most by a flood, there is correct pictorial information depicting a dirt pile, a road, a mountain, and a farm.

Assessment tools use clear pictures and graphics that are developmentally appropriate.

- Assessment tools use clear pictures and graphics. For example, in the Scope for Unique Life Cycles, in the Claim-Evidence-Reasoning activity, there is a clear illustration of the life cycle of a monarch butterfly that includes four stages, and each stage is clearly labeled: egg, larva (caterpillar), pupa (chrysalis), and adult butterfly.
- Assessments contain pictures and graphics that are developmentally appropriate. For example, in the Scope for Plant Structures and Functions, Lesson 2: What Do You Observe?, Interactive Science Notebook activity, students answer three questions about three different plants. The pictures are developmentally appropriate because they show clear pictures of each plant, including the parts of each plant, including the roots, stem, and leaves.
- The assessments use clear pictures that are developmentally appropriate. The Scope for Changes To Land assessment has a slope pictured with a creek in front. Tree trunks are falling from the soil. The picture covers half a page and clearly details the trees and the ditch.
- Assessment tools use clear pictures and graphics that are developmentally appropriate. The Scope for Physical Changes includes BOY assessment tools with graphics appropriate for their age group. The graphics are clear and spaced out to allow for clear viewing.

Materials provide guidance to ensure consistent and accurate administration of assessment tools.

- Materials provide clear guidance for teachers to consistently and accurately administer assessment tools. For example, the Scope for Plant Structures and Functions, Lesson 9: Spin It!, provides instructions for teachers to implement the Wrap-Up activity. It states what teachers need for Preparation, the Activity, and what students will do on the Interactive Science Notebook page. It is suggested the activity take 5 minutes to complete while providing a script for teachers to scaffold the Wrap-Up activity.
- The materials include detailed information that supports the teacher's understanding of assessment tools and their scoring procedures. For example, the Scope for Unique Life Cycles, for Scope Assessment, provides a Rubric and Answer Key. This document provides the following information: Question Number, Answer, Item Types, Standard(s), DOK Level, whether it contains a Stimulus, and Auto-graded.
- There is guidance for accurate administration of the assessment tools. For each Scope, there is a CER assessment with a teacher script. The script gives step-by-step directions to the teacher. In the Scope for Changes to Land, the teacher is instructed to read a story about a boy who notices changes in a pond and then asks students to write about what might be causing the change. The end of the assessment states that the results of this will indicate what students do next. They will be placed into an intervention group or use materials for acceleration if needed.

Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned to learning goals.

- The materials include guidance that allows students to demonstrate mastery of knowledge and skills aligned to learning goals. Materials include BOY and EOY assessments that are aligned with the scopes studied. They also include a chart with answers to show which standard was tested.

- The materials include guidance to offer accommodations for assessment tools so that students of all abilities can demonstrate mastery of learning goals. For example, assessment guidance states, “For students needing accommodations during evaluation, you can simplify the questions and simplify rubrics. For additional student support, consider pulling struggling students 1:1 and administering the assessments orally, making notes on the assessment.” Additionally, materials offer suggestions to get students started with answering CER assessment questions if they are struggling.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 7.1

Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

1	Materials provide recommended targeted instruction and activities to scaffold learning for students who have yet to achieve grade-level mastery.	M
2	Materials provide enrichment activities for all levels of learners.	M
3	Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.	M

Meets | 2 /2

The materials meet the criteria for this indicator. Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Materials provide recommended targeted instruction and activities to scaffold learning for students who have yet to achieve grade-level mastery. Materials provide enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

Materials provide recommended targeted instruction and activities to scaffold learning for students who have yet to achieve grade level mastery.

- The materials provide targeted instruction for students who have not mastered the concept. For example, in the Scope for Food Chains, in a Small-Group Intervention, there is Guided Practice where students review food chains and how some plants depend on living and nonliving things for reproduction through a small-group activity led by the classroom teacher. Then in Active Practice, students play the Act It Out game to practice scope concepts and vocabulary. The materials include Tiered Intervention strategies with Active Practice. In Tier 1, the student begins the activity as the timekeeper. After becoming familiar with how to play the game, the student takes a turn as the actor. In Tier 2, the timekeeper quietly reads and shows the student the vocabulary term(s). In Tier 3, the timekeeper brainstorms with the student a sentence or one-word clue as to what the student will act out. There is a Concept Attainment Quiz to reassess for mastery.
- The materials provide targeted instruction for students who have not mastered the concept. For example, in the Scope for Changes to Land, in Small-Group Intervention, there is a Guided Practice where students review changes to land by wind and water through a small-group activity led by the classroom teacher. Then in Active Practice, students play the Ask, Ask, Switch game to practice scope concepts and vocabulary. There are also Tiered Intervention strategies with Active Practice. In Tier 1, the teacher checks the student's understanding of the game procedures by confirming with the student that the question will be asked on the original game card. The student plays the game with a partner. However, before switching cards and moving to another classmate, have the student repeat the question on the partner's card. In Tier 2, after the student and the partner have asked and answered their questions, have them move on to

new partners without switching cards. Allow the student to reuse the card two to three times before switching with a partner. In Tier 3, the teacher instructs students to cover the answer on their cards. When it is the student's turn to ask the question, the student will show the card to a partner, who will read it aloud. After the question has been read and answered, the student will uncover the answer on the card. Students then switch cards and move on to new classmates. There is a Concept Attainment Quiz to reassess for mastery.

- Materials provide resources for targeted instruction and differentiation to support students who still need to achieve mastery. For example, materials contain additional lessons for small group instruction based on students' areas of need. In the Scope for Sound, the teacher can review the characteristics of sound through small group instruction by Tier. The students play I Say, You Say. The teacher says a sound, and the students say, “Energy ears hear.” Tier 1 students who still need to achieve mastery play by repeating the chant several times. Tier 2 students refer to reference material as they play the game. Tier 3 students have a limited number of chants to repeat.
- The materials include teacher guidance and resources for supporting students who have yet to reach mastery using Picture Vocabulary Cards. For example, the Scope on Sound includes cards with words such as light and dark to support science vocabulary and concept development.

Materials provide enrichment activities for all levels of learners.

- The materials provide enrichment activities for all levels of learners. For example, the Materials Guide Centers provide cross-curricular connections while applying grade-level science knowledge. Centers include Literacy, Math, Writing, Science, Technology, and Science Art. In the Scope for Weather Conditions, the Science-Art station consists of an activity where students write and perform three-minute plays illustrating cities’ current weather information, including temperature and precipitation.
- The materials provide enrichment activities for all levels of learners. For example, in the Engineering Connection section, an engineering challenge offers an opportunity for students to apply grade-level science knowledge. In the Scope for Changes to Land, students focus on the first five steps of the Engineering Design Process (defining the problem, brainstorming, planning, building, and testing) to design models of what could be used for a home so that rain will not wash seeds away.
- The materials provide enrichment strategies that can go with any content. The strategies, organized by grade band, allow students to apply their science knowledge in different ways. For example, the Word Web Strategy will enable students to connect vocabulary words on the web and explain why they connected the terms the way they did. Additionally, the Zooming In Strategy allows students to "zoom in" on a topic they are curious about. As students wonder about a topic, they invite others to explore it.

Materials provide scaffolds and guidance for just in time learning acceleration for all students.

- The materials provide just-in-time scaffolds and guidance to develop productive perseverance in learning for all students. For example, the teacher materials include Tiered Intervention Strategies to meet the varied needs of all students. In the Scope for Changes to Land, in Small Group Intervention, teachers are given strategies to engage all students based on performance as students engage in Active Practice.
- The materials provide support and resources for students ready to accelerate their learning. For example, the materials include project-based exploration for students. In the Scope for Changes

to Land, Lesson 2, the materials support the teacher in engaging students in an engineering challenge using the Engineering Design Process. Students build a model of a sandcastle and an ocean and then observe and discuss what happens to the sandcastle when waves from the ocean make contact with it. The authors designed this activity for students to complete in 15 minutes with questions like "What happens to the sandcastle when the ocean water hits it? "Where does the sand go?"

- The teacher materials include recommendations for just-in-time scaffolds and guidance to support struggling students. After completing the Claim, Evidence, and Reasoning in the Sound scope, the materials suggest asking the students struggling to write a single sentence for the claim and drawing an observation for the evidence. The teacher can access an intervention lesson for students needing a deeper understanding. The students listen to sounds from different musical instruments as the teacher plays them. Then they will discuss how the vibration causes the sounds to be loud or quiet. Then students and teachers play a call-and-response game. "When I say vibrate, you say shake quickly" as a vocabulary review.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 7.2

Materials include a variety of research-based instructional methods that appeal to various learning interests and needs.

1	Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.	M
2	Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one).	M
3	Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.	M
4	Materials represent diverse communities in the images and information about people and places.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation. Materials represent diverse communities in the images and information about people and places.

Evidence includes but is not limited to:

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.

- The materials engage students in the mastery of the content by offering a variety of developmentally appropriate instructional approaches. For example, lessons include authentic tasks in which students use tools to measure and collect data. In the Scope for Sound, Lesson 4: Tuning Fork Sounds, students use a tuning fork with a cup of water to see the vibrations of the different sounds from the tuning fork.
- The materials engage students in the mastery of the content by offering a variety of developmentally appropriate instructional approaches. For example, lessons include educational game-based learning opportunities where students apply scientific knowledge. In the Scope for Objects in the Sky, students play the Headbands game to practice scope concepts and vocabulary.
- The materials provide developmentally appropriate instructional approaches in the lesson structure. Each lesson starts by assessing background knowledge, moves to teacher modeling, and lastly, student practice. For example, in Scope for Sound, Lesson 1, students share what they know about sound after going on a sound walk. Then the teacher models by blowing a

whistle or ringing a bell to show vibration. Lastly, students describe what different sounds mean, such as the sound of a dog barking or the sound of a car motor.

Materials consistently support flexible grouping (e.g., whole group, small group, partners, one on one).

- The materials support flexible grouping. Each lesson includes Engage, Explore, and Explain routines for group instruction. The materials also include teacher guidance for small-group instruction. Flexible grouping is evident in support of emerging bilingual students in each lesson.
- The materials support a variety of instructional groupings. The authors designed each lesson on core content and concepts for the teacher to deliver via whole-group instruction. For example, in the Scope for Environmental Characteristics, ten lessons are provided to scaffold the learning of the concept and are for whole-group instruction. The lessons include activities where students work in small groups, with partners, and independently.
- The materials support a variety of instructional groupings. For example, in the Scope for Resources and Human Impact, Small-Group Intervention includes teacher guidance for small-group instruction. Each part also provides teacher instructions on how to implement.
- Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). In the Scope for Patterns In The Sky, Guided Practice, students review patterns in the sky and objects in the day and night skies through a small-group activity led by the classroom teacher. Then in Active Practice, students play a call-and-response game of When I Say, You Say Chants to practice scope concepts and uses.

Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.

- The materials consistently support multiple types of practices. Lessons begin with a whole group mini-lesson where the teacher models the activity. Then, students explore a concept with a partner as they collaborate, then work independently in their Interactive Science Notebook. The lessons include guidance to support teachers in achieving effective implementation. For example, in the Scope for Weather Conditions, the mini-lesson directs the teacher to ask about the day's weather, and the students reply about current conditions. They discuss the importance of knowing the weather forecast. Then, students look at weather conditions and discuss them with a partner. Independently students match weather conditions to clothing appropriate for that weather.
- The materials provide multiple types of practices. In the Scope for Weather Conditions, Lesson 2: Cold or Hot?, the teacher engages students in a guided discussion to determine which tools people use to help study weather conditions. Students then work collaboratively in pairs to use a thermometer to measure whether water is hot or cold. Afterward, independently students use a thermometer to measure temperature. The lesson provides step-by-step guidance and structures to the teacher for implementation.
- The materials provide multiple types of practices. In the Scope for Changes to Land, Lesson 4: Waves Changing Rocks, the teacher uses a video of a canyon to engage students in a discussion about how water changes rocks. Students then work collaboratively in pairs with a model to investigate. Afterward, independently students explain how waves hitting a rock formation for many years can change the rocks. The lesson provides step-by-step guidance and structures to the teacher for implementation.

Accelerate Learning STEMscopes Science TX Grade 2

Materials represent diverse communities in the images and information about people and places.

- Materials represent diverse communities using images and information. For example, in the Scope for Changes to Land, the Story Cards, the characters include one with cochlear implants.
- Materials represent diverse communities using images and information. For example, in the Scope for Changes to Land, the Interactive Science Notebook handout shows students with different gender and skin tone, and the Active Reader, Adventuring Through the Changes to Land, includes a character in a wheelchair.
- The materials represent a diverse community in images of people and communities. The materials include pictures of animals, nature, objects, robots, and toys when covering science concepts. However, when images have people, such as in Environmental Characteristics, the vocabulary cards reflect the diversity of school communities and match the content. Characteristics vary in images to include race and ethnicity, skin tone, gender, age, disability status, body size and shape, and hair texture.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 7.3

Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.

1	Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.	M
2	Materials encourage strategic use of students' first language for linguistic, affective, cognitive, and academic development in English.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting grade-level science content expectations.

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS. Materials encourage strategic use of students' first language for linguistic, affective, cognitive, and academic development in English.

Evidence includes but is not limited to:

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.

- Materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. In the Scope for Physical Changes, Lessons 1-10 consist of a Differentiation section at the bottom of the lesson. In this section, teachers find strategies to engage EB learners at beginner, intermediate, and advanced/advanced high proficiency levels. For example, in Lesson 6: Descriptive Investigation, the Strategy of Word Walls supports using accessible language in learning. For beginners, word walls include words and images provided by the teacher. For intermediate students, students create personalized word walls with high-frequency words. For advanced/advanced high students, students complete word walls with grade-level and complex vocabulary.
- Materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. In the Scope for Sound, Lessons 1-10 consist of a Differentiation section at the bottom of the lesson. In this section, teachers find strategies to engage EB learners at beginner, intermediate, and advanced/advanced high proficiency levels. For example, in Lesson 10: Sound the Gong, the Strategy of Backwards Book Walk supports using accessible language in learning. For beginners, the teacher guides students to look at headings, illustrations, captions, and bolded or highlighted words using a book with simple text. For intermediate students, students share headings, images, captions, and bolded or highlighted words with teacher assistance as needed. For advanced/advanced high students, students use a more complex book and discuss findings about illustrations, captions, and bolded or highlighted words in the book.

- The materials include linguistic accommodations commensurate with various levels of English language proficiency as defined by the ELPS. For example, the scope has realia during investigations and lessons that can support EB students in making connections to their own lives as they make sense of new concepts. For example, in the Scope for Sound, students explore and listen to a whistle and a bell. Additionally, the materials suggest concrete experiences as linguistic accommodations during direct instruction. For example, in the same scope, students watch the vibration of small sprinkles on foil and hear its noise to demonstrate that vibration causes sound.
- The materials provide EB proficiency levels at the end of each lesson, along with activities for each level for beginning, intermediate, and advanced/advanced high students. For example, in Scope for Weather Conditions, Lesson 2, beginning students are encouraged to retell information using this stem: “What will happen when_____.”

Materials encourage strategic use of students’ first language for linguistic, affective, cognitive, and academic development in English.

- The materials encourage strategic use of students’ first language as a means to academic development in English. The Scope for Physical Properties of Matter, Lesson 1: Observable Properties, includes a Differentiation strategy titled Anticipation Chat. The materials state that the teacher prompts beginners to “repeat simple words and phrases, answer questions with yes/no or one or two words, and respond to visually supported questions with a word or phrase.” The ELP c1A: use prior knowledge and experiences to understand meanings in English is cited to support this activity. Although the materials include strategies for teachers, there is no evidence of materials in languages other than English.
- The materials provide a “Learner Supports” document with English Language Support Strategies. The document includes strategies teachers can integrate into lessons to support students learning English as a second language. These categories include Learning, Listening, Speaking, Reading, and Writing. The document also contains details regarding how to implement the strategies with the materials based on the language proficiency level of students.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 7.4

Materials guide fostering connections between home and school.

1	Materials provide information for students and caregivers about the program's design.	M
2	Materials provide information for caregivers on how they can help reinforce student learning and development.	M
3	Materials include information to guide teacher communications with caregivers.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials guide fostering connections between home and school.

Materials provide information for students and caregivers about the program's design. Materials provide information for caregivers on how they can help reinforce student learning and development. Materials include information to guide teacher communications with caregivers.

Evidence includes but is not limited to:

Materials provide information for students and caregivers about the program's design.

- The materials provide information to share with students and caregivers about the program's design. For example, the materials include a parent letter template to send home that provides additional information about the materials, curriculum philosophy, and key features of the program that can be modified *as* needed.
- The materials inform students and caregivers about the program's design. A parent welcome letter includes an explanation of the 5E model, the statement that each Scope follows the TEKS, and that creative inquiry is the basis for learning in the program.
- In the K-2 Scopes, the parent letter highlights vocabulary, content, and activities students experience in class and suggested activities at home. The letter includes login credentials to access the program, which features some always-available resources that students can use at home, including a Glossary and a reference resource called STEMscopedia.

Materials provide information for caregivers on how they can reinforce student learning and development.

- Materials provide information to share with students and caregivers about the program's design and how it allows caregivers to reinforce learning at home through questions and activities. For example, teachers can access a parent letter to send home upon scope completion in the Scope for Objects in the Sky. The letter includes key concepts, what students did in class, vocabulary information, questions for parents to ask their children, and a tic-tac-toe board with activities for students to do to reinforce the science concepts at home.

- The materials include Information to share with caregivers to reinforce learning at home. There is a Home School Connection page for each Scope. This page contains a vocabulary content section and suggested activities students can do at home to help continue classroom learning.

Materials include information to guide teacher communications with caregivers.

- The materials include a parent letter in PDF format that explains materials taught with key concepts. The materials provide information to share with students and caregivers about the program's design. For example, the materials provide a parent letter to send home upon scope completion. The letter includes key concepts, what students did in class, vocabulary information, questions for parents to ask their children, and a tic-tac-toe board with activities for students to do to reinforce the science concepts at home.
- The materials include information to guide teacher communication with caregivers. The resources include a page entitled Help to introduce parents to STEMscopes. This page instructs teachers that the resources have a one-page parent letter available for download, briefly describing the curriculum philosophy and some of the scopes' features. It also states that the teacher can modify the one-pager for distribution to parents and guardians of STEMscopes students.
- The materials include Student Data Sheets, allowing teachers to track or verify students' understanding and mastery of the standards with observational notes. Teachers can use these sheets to communicate student progress with the school or parents/caregivers. The data sheets include a detailed explanation of each level of mastery that allows the teacher to provide details about why a student is a novice, gaining proficiency, or an expert in each scope.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 8.1

Materials include year-long plans with practice and review opportunities that support instruction.

1	Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.	M
2	Materials provide clear teacher guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts.	M
3	Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.	PM

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials partially include year-long plans with practice and review opportunities that support instruction.

Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials. Materials provide clear teacher guidance for facilitating student-made connections across core concepts, scientific and engineering practices, and recurring themes and concepts. Materials provide limited review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

Evidence includes but is not limited to:

Materials are accompanied by a TEKS aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.

- The materials include a TEKS-aligned scope and sequence that outlines the order in which knowledge and skills are taught. Under the Resources tab, the Planning with STEMscopes subtab provides teachers with a suggested scope order and pacing guide (by scope name), an outline of the Texas Essential Knowledge and Skills (TEKS) for each scope, and suggested pacing by instructional day.
- Teacher materials include a Standards Planning section within the Scopes tab, where the concepts and TEKS are listed in the order in which they are taught. While there is a suggested order of scopes along with the aligned TEKS, the materials state that "...the order of scopes in *STEMscopes* is suggested but not required; scope and sequence can be adjusted to fit the needs of the individual campuses and districts."

Materials provide clear teacher guidance for facilitating student made connections across core concepts, scientific and engineering practices, and recurring themes and concepts.

- Teacher materials include a Standards Planning section that details the TEKS that are addressed in the lessons, including core concepts, scientific and engineering (SEPs) practices, and recurring themes and concepts (RTCs).
- Teacher guidance includes discussion prompts to help teachers facilitate student-made connections in all lessons for each scope.

Accelerate Learning STEMscopes Science TX Grade 2

Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

- Materials sporadically provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention. For example, in the Scope for Weather, the materials state, “As students discuss the value of using telescopes to view severe weather such as tornadoes and hurricanes from a distance, they can note the changes in the visibility of the object in the sky during these severe weather conditions.”
- Materials suggest that teachers may choose to teach, or use, some parts of a module during the initial instruction and save other parts to assign to students at any time throughout the year. While this implies that materials provide review and practice of knowledge and skills throughout the year, there is limited guidance on spiraling to support mastery and retention.
- For example, materials suggest that during a scope, teachers use the Science Center to allow students to practice recently learned content; however, the guidance is unclear on how to address this within the Science Center.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

1	Materials provide teacher guidance and recommendations for the use of all materials, which include: text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning.	M
2	Materials include standards correlations, including cross-content standards, that explain the standards within the context of the grade level.	M
3	Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.	M
4	Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include classroom implementation support for teachers and administrators.

Materials provide teacher guidance and recommendations for the use of all materials, which include: text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning. Materials have standard correlations, including cross-content standards, that explain the standards within the context of the grade level. Materials include a comprehensive list of all equipment and supplies needed to support instructional activities. Materials include guidance for safety practices, including the grade-appropriate use of safety equipment during investigations.

Evidence includes but is not limited to:

Materials provide teacher guidance and recommendations for use of all materials,which include: text, embedded technology, enrichment activities, research based instructional strategies, and scaffolds to support and enhance student learning.

- Materials include teacher guidance for embedding technology in the “Centers” component. Teacher guidance and recommendations for using included texts are located throughout the components of each scope.
- Research-based instructional strategies are supported throughout the lessons as they are designed for inquiry-based instruction using the 5E instructional model. Scaffolds to support and enhance learning and implement enrichment activities are available in the Advanced Strategies and Intervention tabs.
- Materials include scopes with multiple lessons to address the development of a concept over time. The Intervention tab in each scope includes teacher guidance for providing a small group lesson to provide additional instruction for students struggling with the concept.
- The “Advanced Strategies” section under the Resources tab includes instructional strategies with descriptions of how to implement these strategies to enrich student learning.

Accelerate Learning STEMscopes Science TX Grade 2

Materials include standards correlations, including cross content standards, that explain the standards within the context of the grade level.

- The Standards Planning tab in each scope includes a list of the Texas Essential Knowledge and Skills (TEKS), Scientific and Engineering Practices (SEPs), and Recurring Themes and Concepts (RTCs). Information is provided about cross-content standards that are addressed and where they are addressed within the scope.
- The materials include TEKS for cross-curricular connections in the Standards Planning section of each scope.
- Teacher materials include guides in each Scope that explain student expectations for the content TEKS.

Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.

- The “Planning with STEMScopes” section includes the STEMScopes K-5 Texas Science Materials List. There is a comprehensive materials list for Grade 2. The list includes the overall topic, the scope name, the lesson plan number, the name and quantity of the materials needed, whether the materials are per student, group, or class, whether the materials come in the kit or should be supplied by the school, and whether the materials are consumable or can be reused.
- The STEMScopes Kits List lists materials needed to implement the investigations referenced in the lessons in each scope.

Materials include guidance for safety practices, including the grade appropriate use of safety equipment during investigations.

- Teacher guidance for safety practices is under the Resources tab and includes Lab Safety Information, five Safety Posters K-2, a Safety Equipment PowerPoint, and a Safety Contract.
- The five Safety Posters include grade-appropriate pictures and rules for safe practices, including using safety equipment during investigations. For example, one poster has a bear wearing safety goggles.
- Teacher guidance for safety practices is addressed as needed within lessons included in the scopes.

Accelerate Learning STEMscopes Science TX Grade 2

Indicator 8.3

Materials provide implementation guidance to meet variability in program design and scheduling.

1	Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.	M
2	Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.	M
3	Materials designated for the course are flexible and can be completed in one school year.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials provide implementation guidance to meet variability in program design and scheduling.

Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities. Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression. Materials designated for the course are flexible and can be completed in one school year.

Evidence includes but is not limited to:

Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.

- Teacher materials include a K-2 Science Suggested Scope and Sequence that includes a list of the grade 2 scopes, the aligned Texas Essential Knowledge and Skills (TEKS), along with the suggested pacing of instruction days. A note for teachers suggests that the order of the Scopes of STEMscopes is suggested but not required. The scope and sequence can be adjusted to fit the needs of individual campuses and districts.
- Materials include recommendations for the required time for lessons and activities. For example, Lesson 1 includes the following scheduling considerations: Circle Time- 5 minutes; Mini Lesson- 15 minutes; Wrap Up- 5 minutes; Word Wall with Wallace the Wordy Walrus- 5 minutes.
- The materials state that there is an assumed 35-minute block per day for science instruction. If 35 minutes is not feasible, lessons and activities are designed with flexibility.

Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.

- Teacher guidance in the Development and Delivery of the 5E+IA STEMscopes Science Curriculum Model includes a sequenced pathway and resources and support for meeting the needs of all students in all K-12 science classrooms.
- Teacher guidance in the K-2 Suggested Scope and Sequence states that the order is suggested but not required and can be added to the instructional time based on class time options.

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Materials designated for the course are flexible and can be completed in one school year.

- The Lesson Planning Guide provides teachers with the required time for lessons and activities. Each scope includes the following teacher guidance, "This schedule assumes there is a 35-minute period for science instruction each day. If 35 minutes of science instruction is not feasible, lessons and activities are designed with the flexibility to allow for cross-curricular integration with other subject areas."
- The Suggested Scope Order and Pacing Guide includes the Suggested Scope and Sequence for Concepts that helps the teacher plan instruction within a number of suggested days, which is provided by the pacing guide. If the teacher follows the suggested number of days, they can teach all content for the designated grade level in one year.

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Indicator 9.1

The visual design of materials is clear and easy to understand.

1	Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.	Yes
2	Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting.	Yes
3	Materials include digital components that are free of technical errors.	Yes

Not Scored

The visual design of materials is clear and easy to understand.

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. Materials include digital components that are free of technical errors.

Evidence includes but is not limited to:

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.

- The digital materials include an appropriate amount of white space and an overall design that does not distract from student learning. For example, in the Scope for Plant Structures and Functions, Lesson 1: What Did You Find?, the student handout for the Interactive Science Notebook-Student Handout has a clear main subject, topic, or purpose, title and heading are prominent and clear; sections are marked with subheadings, the subheadings have a clear, relevant hierarchy, and the content is organized in a logical progression.
- Teacher guidance materials are appropriately designed with clear, designated places for important information. Teacher guidance documents, located on the main landing page for each scope, are designed so that teachers can locate important information easily for planning and implementation.
- Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. The Interactive Notebook materials in the Scope for Sounds are colorful enough to hold the student's attention but not overly distract the student's learning.
- The materials include an appropriate amount of white space and a design that is not distracting. For example, the Scope for Changes to Land has a graphic organizer with a clear title, appropriate margins, and space between words such as before and after. The space where students should write has white space appropriate for student handwriting.

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Materials embed age appropriate pictures and graphics that support student learning and engagement without being visually distracting.

- The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. For example, in the Scope for Unique Life Cycles, the materials include vocabulary cards with clear and authentic images and graphics to define and support the new words students are learning.
- The materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. For example, in the Scope for Animal Structures and Behaviors, the Interactive Story Cards used for each lesson include age-appropriate pictures and graphics that support student learning and engagement.
- The pictures in the materials are age-appropriate and not distracting. For example, in the Scope for Changes to Land, the graphic organizer is clear and correct and shows a clear space for students to write and draw what happens to a river bed before and after water is poured near the sand.
- The Scope for Physical Properties of Matter includes age-appropriate graphics that support student learning and engagement without being visually distracting. In Lesson 2, Pizza Matter, the images are very clear and include colorful descriptions. There is an Observable Physical Properties Of Matter chart that is divided into four squares. Each square includes one property of matter with text and two clear pictures to describe each property. For example, the box for the flexibility property includes the word *Flexible* above the image of a rubber band and the word *Rigid* above the image of a six-sided die.

Materials include digital components that are free of technical errors.

- The materials include digital components that are free of technical errors. In each scope, the teacher resources are free of spelling, grammar, and punctuation errors, inaccurate content materials or information, and materials are free of wrong answer sheets to problems.
- The materials include digital components that are free of technical errors. In each scope, the student materials are free of spelling, grammar, and punctuation errors, inaccurate content or information, and materials free of wrong answer sheets to problems.
- Materials are free of digital technical errors. Each Scope includes a video that is clear and error-free. The student handouts and graphic organizers are free from spelling and grammar errors. For example, in The Scope for Changes to Land, in the interactive Science Notebook, there are clear and correctly spelled directions and boxes for students to place their answers to a question about changes in the land after rain.
- The materials include digital components that are free of technical errors. Students can select the option of reading the virtual Active Reader online or using the text-to-speech feature. The materials are free of spelling, grammar, and punctuation errors.

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Indicator 9.2

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

1	Materials integrate digital technology and tools that support student learning and engagement.	Yes
2	Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content.	Yes
3	Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.	No
4	Materials integrate digital technology that is compatible with a variety of learning management systems.	Yes

Not Scored

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

Materials integrate digital technology and tools that support student learning and engagement. Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade-level content. Materials do not integrate digital technology that provides opportunities for teachers and/or students to collaborate. Materials integrate digital technology that is compatible with a variety of learning management systems.

Evidence includes but is not limited to:

Materials integrate digital technology and tools that support student learning and engagement.

- The materials integrate digital technology and tools that support student learning and engagement. Digital technology and tools enhance student learning through such features as learning games, interactives, simulations, and online assessments. For example in the Scope for Plant Structures and Functions, in the Technology Center, students play an online game and watch the Science Rock video and Vocab Raps. During the interactive game, students identify each plant structure based on its function. The game also serves as a check for understanding to evaluate student understanding of the concept.
- The materials provide teacher guidance for using simulations, interactives, and related activities to support student learning. For example in the Scope for Animal Structures and Behaviors, in the Technology Center, the materials include instructions for teachers to implement this activity with students. Students play an online game and watch the Science Rock video and Vocab Raps. During the interactive game, students compare different animals and how their structures help them find food, water, and air, and defend themselves. The game also serves as a check for understanding to evaluate student understanding of the concept.
- The materials integrate digital technology tools and support students' engagement with online games, Science Rock videos, and online assessments. For example, in the Scope for Changes to Land, students can play a game by clicking on wind or water to describe how a landform was

changed. In addition, students write digitally describing a time they have seen wind or water move something.

Materials integrate digital technology in ways that support student engagement with the science and engineering practices, recurring themes and concepts, and grade level content.

- The materials integrate digital technology in ways that support student engagement with science and engineering practices, recurring themes and concepts, and grade-level content.
    - For example, in the Scope for Animal Structures and Behaviors, in the Technology Center, during the Let's Sing Activity, students watch the Science Rock Song video and draw and write about an animal with unique behavior and explain how the animal's basic needs are met. Students engage in grade-level content about animal behaviors. This activity also embeds recurring themes and concepts for Structures and Functions as students identify how animal behaviors affect their survival. Students also use scientific and engineering practices as they watch the Science Rock Song to collect evidence to respond to the two questions. They also communicate an explanation by drawing and writing to respond to the questions.
    - For example, in the Scope for Unique Life Cycles, in the Technology Center, during the Let's Sing Activity, students watch the Science Rock Song, choose any animal, and draw and write about how it changes from birth to adulthood. Students engage in grade-level content about unique life cycles. This activity also embeds recurring themes and concepts for patterns as students are expected to identify the pattern of stages in the life cycle of an organism. Students are also expected to use scientific and engineering practices as they watch the Science Rock Song to collect evidence to respond to the two questions. They also communicate an explanation by drawing and writing to respond to the questions.
    - For example in the Scope for Changes To Land, students watch a video on landforms changing and then draw and write about changes such as a river moving rocks as it flows. students can click on wind or water to identify the cause of the change to the land. If the student is incorrect they will get a "Try Again" message. In addition, the student cannot click on the next picture to continue the game until they answer correctly. When a canyon with water flowing through is shown, students will not be able to proceed if they click on wind causing the change. Recurring themes such as cause and effect are present. Each "need "presented in the game is essential for survival. If the organism has needs met, it will survive. Students then write on the digital platform.

Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.

- The materials do integrate digital technology; however, it does not provide opportunities for teachers and/or students to collaborate. Digital technology included in the materials lacks such components as discussion boards, video conferencing, and cyber spaces that would allow collaboration. Digital technology for student use lacks such components as platforms to post class discussions or enhance digital group projects.
- While the materials do integrate digital technology in the form of learning games, these are not designed to be completed by interacting or collaborating with others.

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Materials integrate digital technology that is compatible with a variety of learning management systems.

- Digital materials are accessible and compatible with multiple operating systems and devices. The information was provided in documents outside of the review in the Rubric Tool. For example, the materials provide single-sign-on ability via Clever, MS SAML, Google SSO, LTI SSO, ClassLink, and Schoology. We support integration with client LMS systems through IMS Global's Thin Common Cartridge (ThinCC) protocol.
- Digital materials are accessible and compatible with multiple operating systems and devices. For example MacBook, Google Classroom, and Canvas.
- Materials provide Technical Roadmap K-12, which gives information about Rostering and Integration Options. Rostering can be done with OneRosterCSV, Classlink, Clever, Schoology, EdFi, and Skyward. LMS Integration can be done with Canvas, Schoology, Google Classroom, Safari Montage, and SRG. SSO can be done with Classlink, Clever, Schoology, Canvas, Ed-Fi, and SAML.

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Indicator 9.3

Digital technology and online components are developmentally and grade-level appropriate and provide support for learning.

1	Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression.	Yes
2	Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.	Yes
3	Materials are available to parents and caregivers to support student engagement with digital technology and online components.	Yes

Not Scored

Digital technology and online components are developmentally and grade-level appropriate and provide support for learning.

Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning. Materials are available to parents and caregivers to support student engagement with digital technology and online components.

Evidence includes but is not limited to:

Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression.

- The digital technology and online components in the materials are developmentally appropriate for the grade level. For example, in the Scope for Plant Structures and Functions, Lesson 2: What Do You Observe?, in the Word Wall with Wallace the Wordy Walrus activity, students view the structure Vocabulary Card and watch the Structure Vocab Rap video to help students engage in learning about the vocabulary word through song.
- The digital technology and online components are aligned with the grade-level scope and approach to science knowledge and skills progression. For example, in the Scope for Unique Life Cycles, at the end of lessons 1-10, there is a Word Wall with Wallace the Wordy Walrus activity that provides teachers instructions for implementing the activity that identifies new vocabulary and allows students to practice using it.
- The online components are developmentally appropriate and align with the scope and approach to science knowledge. For example, in K-2 Scopes, have videos in lessons to reinforce word wall words. Each video is an appropriate length. Most are about 1 minute and 20 seconds. In addition, each online component matches TEKS for that grade level. In the Scope on Changes to Land, one video is on Wind and is 22 seconds. There is a technology section for each lesson. For the Changes To Land Scope, the technology section instructs teachers to tell students to watch a Science Rock Video and write and tell about changes to the land.

- Digital technology and online components are developmentally appropriate for the grade level and align with the scope and approach to science knowledge and skills progression. Scopes include digital components with the interactive notebook that directly correlate with what the scope was taught for the week.

Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.

- Materials provide teacher guidance for the use of embedded technology to support and enhance student learning
    - Teacher guidance for using embedded technology with learning center activities includes a Preparation section with instructions for getting students logged into the website and navigating to the Technology Center for the Scope. It also includes an Activity section with instructions for guiding students to use the embedded technology to enhance learning.
- The materials provide a guidance video for the Scope lesson format.

Materials are available to parents and caregivers to support student engagement with digital technology and online components.

- The materials provide parent letters for each Scope to support student engagement with the digital platform at home. This letter explains the program, its benefits, and its usage within the classroom. The parent letters state, "Your student will receive login credentials to access the program, which features some always-available resources that can be browsed at home, including a Glossary and a reference resource called STEMscopedia. Each of these STEMscopedia reading passages incorporates hands-on activities Additionally, rather than a traditional textbook, your student may come home with a variety of assignments, like reading passages, vocabulary exercises, and at-home hands-on lessons."